

## What is claimed:

- 1                   1.     A light emitting apparatus comprising:  
2                   a source of light for emitting light;  
3                   a down conversion material receiving the emitted light and converting the  
4 emitted light into transmitted light and backward transmitted light; and  
5                   an optic device configured to receive the backward transmitted light and  
6 transfer the backward transmitted light outside of the optic device.
- 1                   2.     The light emitting apparatus of claim 1, wherein the source of light  
2 is a semiconductor light emitting diode, including one of a light emitting diode (LED), a  
3 laser diode (LD), or a resonant cavity light emitting diode (RCLED).
- 1                   3.     The light emitting apparatus of claim 1, wherein the down  
2 conversion material includes one of phosphor or other material for absorbing light in one  
3 spectral region and emitting light in another spectral region.
- 1                   4.     The light emitting apparatus of claim 1, wherein the optic device  
2 includes a light transmissive material.
- 1                   5.     The light emitting apparatus of claim 1, wherein the optic device  
2 includes at least one of a lens or a light guide having a light transmissive property.
- 1                   6.     The light emitting apparatus of claim 1, wherein the optic device is  
2 further configured to direct the light emitted from the source toward the down  
3 conversion material.
- 1                   7.     The light emitting apparatus of claim 1, wherein the optic device  
2 includes one of a lens or a light guide for directing substantially all of the light emitted  
3 from the source toward the down conversion material.
- 1                   8.     The light emitting apparatus of claim 1, wherein the source of light  
2 is disposed adjacent a first end of the optic device.
- 1                   9.     The light emitting apparatus of claim 8, wherein the down  
2 conversion material is disposed adjacent a second end of the optic device, the second  
3 end opposed to the first end.
- 1                   10.    The light emitting apparatus of claim 1, wherein the optic device is  
2 geometrically configured to transmit the reflected light out of the optic device.
- 1                   11.    The light emitting apparatus of claim 1, wherein the source of light  
2 includes a plurality of semiconductor light emitters.
- 1                   12.    The light emitting apparatus of claim 9, wherein the down  
2 conversion material is deposited on a portion of the second end of the optic device.
- 1                   13.    The light emitting apparatus of claim 12, wherein the down  
2 conversion material is deposited to cover substantially the second end of the optic  
3 device.

1                   14.     The light emitting apparatus of claim 1, including a collecting  
2 device for collecting the reflected light which is transferred out of the optic device.

1                   15.     The light emitting apparatus of claim 14, wherein the collecting  
2 device includes a reflector for directing the reflected light away from the collecting  
3 device.

1                   16.     The light emitting apparatus of claim 15, wherein (a) the source of  
2 light is disposed adjacent a first end of the optic device, (b) the down conversion  
3 material is disposed adjacent a second end of the optic device, and (c) the first end of  
4 the optic device is disposed adjacent a first end of the reflector.

1                   17.     The light emitting apparatus of claim 1, wherein a geometrical  
2 shape of the optic device includes one of a cone, sphere, hyperbola, parabola, ellipse,  
3 pyramid, or box shaped.

1                   18.     The light emitting apparatus of claim 1, further including a reflector  
2 surrounding at least a portion of the optic device, and a light diffuser deposited on top of  
3 at least a portion of the reflector.

1                   19.     The light emitting apparatus of claim 18, wherein the down  
2 conversion material is disposed between the source of light and the reflector, and the  
3 down conversion material has a curved shape.

1                   20.     A light emitting apparatus comprising:  
2 a cylindrical optic including a light transmissive material;  
3 a light radiation source disposed within the cylindrical optic; and  
4 a down conversion material, disposed at a middle section of and within the  
5 cylindrical optic, for at least one of transmitting or reflecting light transmitted by the  
6 light radiation source.

1                   21.     The light emitting apparatus of claim 20, wherein the light radiation  
2 source is a semiconductor light emitter, including one of a light emitting diode (LED), a  
3 laser diode (LD), or a resonant cavity light emitting diode (RCLED).

1                   22.     The light emitting apparatus of claim 20, where the light radiation  
2 source is disposed adjacent one lateral end of the cylindrical optic.

1                   23.     The light emitting device of claim 20, wherein the light radiation  
2 source includes first and second radiation sources, spaced from each other and both  
3 disposed adjacent one lateral end of the cylindrical optic.

1                   24.     The light emitting device of claim 20, wherein the down conversion  
2 material includes one of phosphor or other material for absorbing light in one spectral  
3 region and emitting light in another spectral region.

1                   25.     The light emitting device of claim 20, wherein the down conversion  
2 material is disposed substantially parallel to a longitudinal axis of the cylindrical optic.

- 1                   26.    The light emitting apparatus of claim 20, wherein the light radiation  
2    source includes at least one light source on each side of the down conversion material.
- 1                   27.    The light emitting apparatus of claim 26, wherein the light sources  
2    are mounted on at least one substrate.